

Appeals from decisions of the New Mexico State Office, Bureau of Land Management, rejecting noncompetitive oil and gas lease offers in whole or in part. NM-A 62541 (TX), et al.

Affirmed.

1. Oil and Gas Leases: Known Geologic Structure -- Oil and Gas Leases: Offers to Lease

BLM properly rejects noncompetitive oil and gas lease offers for land determined to be within the known geologic structure of a producing oil or gas field where the offeror fails to establish by a preponderance of the evidence that the land is not presumptively productive and where BLM, hence, justifiably relies on its geological opinion that the land is generally underlain by fractured reservoirs radiating from faults which at certain points have been productive of oil and gas and the offeror at best presents a contrary opinion.

APPEARANCES: John R. Brown, Assistant Vice President, Beard Oil Company, Oklahoma City, Oklahoma, for Beard Oil Company; Phillip D. Barber, Esq., Denver, Colorado, for Jack J. Grynberg; Harue O. McVay, Honolulu, Hawaii, pro se; Thomas D. Coffman, President, Thomas D. Coffman, Inc., Austin, Texas, for Thomas D. Coffman, Inc.; Gayle E. Manges, Esq., Margaret C. Miller, Esq., Office of the Field Solicitor, U.S. Department of the Interior, Santa Fe, New Mexico, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE HARRIS

The Beard Oil Company (Beard Oil), Jack J. Grynberg, Harue O. McVay, and Thomas D. Coffman, Inc. (Coffman), have appealed from various decisions of the New Mexico State Office, Bureau of Land Management (BLM), rejecting their noncompetitive oil and gas lease offers in whole or in part because the land sought had been determined to be within the Hemphill-Pineland Field known geologic structure (KGS), effective August 30, 1985. 1/ All of the

1/ Appendix A constitutes a listing of the various appellants, their respective oil and gas lease offers, the dates the lease offers were filed, and the dates of the BLM decisions rejecting the lease offers in whole or in part. By order dated Jan. 31, 1986, the Board granted a request by Beard Oil to consolidate four cases (IBLA Nos. 86-156, 86-157, 86-229, and 86-230). Because

land sought by appellants is acquired land situated in Sabine County, Texas, within the Sabine National Forest. Appellants' lease offers were filed pursuant to the Mineral Leasing Act for Acquired Lands, as amended, 30 U.S.C. §§ 352-359 (1982).

All of the lease offers of Beard Oil were filed over-the-counter. 2/ The lease offers of Grynberg and McVay were filed in response to BLM decisions notifying them that their simultaneous oil and gas lease applications had been drawn with first priority for parcels in simultaneous oil and gas lease drawings and requiring them to submit executed lease offer forms. 3/ The lease offer of Coffman was filed over-the-counter immediately prior to reversion of the mineral interest in the land sought to the United States on January 1, 1985. 4/

fn. 1 (continued)

of the substantial similarity of legal and factual issues involved, we have also consolidated the other appeals listed in appendix A.

2/ Lease offers NM-A 61082 (TX), NM-A 61106 (TX), NM-A 61108 (TX), and NM-A 61085 (TX) were rejected by BLM because all of the land sought had been determined to be within the Hemphill-Pineland Field KGS. As an additional ground for rejection, BLM described certain lands within each lease offer as being lands in which the mineral interest was not owned by the United States. Beard Oil has not challenged the respective BLM decisions on the latter ground. Accordingly, its appeals will be considered only with respect to BLM's rejection of the lease offers because of the KGS determination. We also note that the record indicates that a portion of the land in lease offer NM-A 60917 (TX) is also land for which the United States does not own the mineral interest. This land is described by appropriate survey and abstract as follows: J. A. Watson (A-481), W. W. King (A-469), John Boyd (A-74), G. E. Montgomery (A-367), and Herman Frazier (A-105). Although BLM did not cite this fact in its decision on NM-A 60917 (TX), to the extent that lease offer encompasses land in which the mineral interest is not Federally owned, it would serve as an additional ground for rejection of the offer as to such land.

3/ The simultaneous oil and gas lease applications of Grynberg and McVay were drawn with first priority, respectively, for parcel NM-404 and parcel NM-291 in a June 1985 and an October 1985 simultaneous oil and gas lease drawing. Grynberg and McVay were required to execute lease offer forms by decisions dated, respectively, Oct. 16, 1985, and Jan. 24, 1986. Lease offer NM-A 63794 (TX) was rejected in part by BLM because a portion of the land sought (102 acres) had been determined to be within the Hemphill-Pineland Field KGS. Effective Jan. 1, 1986, BLM issued a noncompetitive oil and gas lease to Grynberg with respect to the remainder of the land sought by him (39 acres).

4/ Lease offer NM-A 60860 (TX) was rejected in part by BLM because a portion of the land sought (2,548.9 acres described as Tracts 1, 2, 4, 5, 6, 7, 8, and 10) had been determined to be within the Hemphill-Pineland Field KGS. In its November 1985 decision, BLM required Coffman, within 30 days of receipt of the decision, to redescribe the land sought in tract 9 so as to exclude therefrom the 418.21 acres which had been conveyed to Harris R. Fender by exchange deed dated Oct. 10, 1975. Coffman filed the required redescription with BLM on Dec. 18, 1985.

BLM's decisions to reject appellants' lease offers were ostensibly based on a September 17, 1985, memorandum in which the BLM District Manager, Tulsa District, Oklahoma, informed the BLM State Director, New Mexico, that approximately 86,458 acres of land in Sabine County, Texas, including the land involved herein, had been included in the Hemphill-Pineland Field KGS, effective August 30, 1985. The District Manager stated that the KGS designation had been based on "field study." The case files initially sent to the Board did not contain any information regarding that "field study" or any documentation supporting the KGS designation. However, in responding to appellants' statements of reasons for appeal (SOR), BLM has provided the Board with a September 16, 1985, memorandum prepared by a geologist with the Tulsa District Office (hereinafter referred to as the Geologic Report). This memorandum was the basis for designation of the Hemphill-Pineland Field KGS and the Brookeland Field KGS, which consists of approximately 4,485 acres of land in Sabine County, Texas, immediately south of the Hemphill-Pineland Field KGS.

According to the Geologic Report at page 8, the entire area of the Hemphill-Pineland Field KGS is underlain by two "chalk sequences," totalling about 1,000 feet in thickness, which are known as the Saratoga Chalk and the Austin Chalk. The Saratoga Chalk overlies the Austin Chalk. The chalk sequences are separated by a 400-500-foot shale-sandstone sequence. Both chalk sequences dip about 1-2 degrees southward across the KGS, with the Saratoga Chalk at a depth of about 4,000 feet in the northern portion of the KGS and 6,500 feet near the southern boundary of the KGS. With respect to oil and gas production from these sequences, the report stated that "82 exploratory drill holes" had been drilled "within or near the KGS boundaries * * * with 35 wells producing oil and gas with varying degrees of success." Id. at 1. Accumulated production between November 1980 and March 1985 was reported to have been 236,959 barrels of oil (BO) and 724,748 thousand cubic feet (MCF) of gas. 5/ Id. The report indicated that most of the production had been obtained from the Saratoga Chalk, but that the "scattered occurrences" of production from the Austin Chalk indicated that the "entire area has the potential for substantial production from this interval." Id. at 8. The report also noted that both the Saratoga Chalk and the Austin Chalk "need to be extensively fractured to provide commercial production of hydrocarbons." Id. at 3. In order to determine the extent of fracturing in the area by looking at "structural patterns * * * conducive to producing natural fracture patterns," BLM prepared a structural contour map using the top of the Saratoga Chalk sequence depicted in 79 well logs. Id. This map revealed a "number of parallel faults trending north-south through the main part of the Hemphill KGS area." Id. In comparing this map with a base map showing well locations, BLM found that there was a "definite correlation of fault pattern to commercial oil and gas production." Id. at 4.

According to the Geologic Report, in designating the boundaries of the Hemphill-Pineland Field and Brookeland Field KGS's, BLM used both an administrative and a geological approach. Id. at 7. The administrative approach involved designating a 1,440-acre square block of land surrounding each oil

5/ Total oil and gas production was valued at \$ 9,560,000, using values of \$ 27.50 per barrel of oil and \$ 2.50 per thousand cubic feet of gas (Geologic Report at 1).

and gas well. 6/ The boundaries of each square block of land were then made to conform to the nearest boundary of a surveyed tract of acquired land and the resulting collection of parcels was grouped together in a coherent fashion. Id. at 6. The geological approach involved identification of any fault systems which would provide the "conduit for oil and gas migration into the fracture zone reservoirs in the chalk sequences," and then the projection of production along fault lines. Id. at 7. By using the structural contour map, BLM identified a "definite fault system extending throughout [the] area, [which provided] * * * the migration route for deep oil and gas to seep upward into the fracture zones, as well as migrate laterally up-dip from areas to the south." Id. In the southern part of the Hemphill-Pineland Field KGS, BLM found a "definite east-west 'trend' along [the] strike of the chalk that we can project laterally into areas where there is no well control." Id. In this manner, BLM projected the productive reservoir into undrilled areas. Id. However, in the northern part of the Hemphill-Pineland Field KGS, BLM found "no discernible pattern of oil and gas production [with] dry holes sitting right next to oil and gas producers." Id. BLM concluded that "fractured zones occur erratically throughout this area." Id. BLM summarized its methodology as follows:

The boundaries of the KGS have been established by the spacing requirements of the Texas Railroad Commission, and then geologic interpretations to ascertain what areas would be presumptively productive. Both methods produce KGS boundaries which are remarkably similar, but the geologic interpretations allow us to extend as well as project our boundaries further than we normally would do by the administrative approach.

Id. at 8.

In their SOR's, appellants do not challenge BLM's authority to reject noncompetitive oil and gas lease offers where the land encompassed by the offers has been determined to be within a KGS prior to lease issuance. Indeed, as we recently noted in Kathleen M. Blake, 96 IBLA 61, 63 (1987), rejection in such circumstances is dictated by section 17 of the Mineral Leasing Act, as amended, 30 U.S.C. § 226 (1982). That statutory provision is equally applicable to the leasing of acquired land and requires that land within a KGS be leased only by competitive bidding. See 30 U.S.C. § 352 (1982); Evelyn D. Ruckstuhl, 91 IBLA 384 (1986). Appellants' contention in these cases is that BLM improperly designated the land involved herein as within the Hemphill-Pineland Field KGS. We, therefore, will concentrate on the propriety of that designation.

[1] One challenging a KGS determination has the burden of establishing by a preponderance of the evidence that BLM's inclusion of the land in

6/ This block of land consisted of an initial 160-acre tract representing the well spacing requirements of the Texas Railroad Commission. Around the initial square BLM includes the surrounding 160-acre tracts to constitute a square including nine 160-acre tracts.

the KGS is erroneous. 7/ Bender v. Clark, 744 F.2d 1424 (10th Cir. 1984). In satisfying that burden, an appellant must be cognizant of what is meant by the term KGS, which is defined by the Department as the "trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive." 43 CFR 3100.0-5(1) (emphasis added). While there must be a determination that a structural and/or stratigraphic trap contains oil or gas, usually by completion of a producing well, the limits of a KGS are not simply the immediate area around that well or land itself determined to be productive, but all land where geologic or other evidence indicates that there is a reasonable probability that the land is underlain by the trap or a series of related traps in the same formation(s). Thunderbird Oil Corp., 91 IBLA 195 (1986), appeal filed, Planet Corp. v. Hodel, No. 86-679 HB (D.N.M. June 10, 1986); B. K. Killion, 90 IBLA 378 (1986); Angelina Holly Corp., 70 IBLA 294 (1983), aff'd, Angelina Holly Corp. v. Clark, 587 F. Supp. 1152 (D.D.C. 1984). Such additional land is considered to be "presumptively productive," and is properly included in the KGS. Lloyd Chemical Sales, Inc., 82 IBLA 182 (1974).

On appeal, Beard Oil argues that fractured reservoirs, which are those characteristic of the KGS area, by their nature constitute small, localized areas of very diverse rates of production for uncertain periods. It contends that the fact that the KGS area is characterized by "isolated reservoirs" rather than a single reservoir is demonstrated by the fact that less than one-half (32 out of 74) of the wells which tested the Saratoga Chalk were productive and that 21 of these wells are no longer productive, after having had limited production (Beard Oil SOR, dated June 18, 1986, at 5). In support of this conclusion, Beard Oil submits the June 16, 1986, statement of Henry L. Cullins, a geologist formerly with the Conservation Division, United States Geological Survey (Exh. 1). Cullins states that BLM does not have a definitive geological basis for "outlining the presumed trap and placing the KGS boundaries in accordance with the trap" where BLM has mapped the faulting but not the fracturing due to faulting (Exh. 1 at 1). Also submitted is a map of the KGS area prepared by Cullins on which he delineated the presumed traps surrounding the productive wells (Exh. A to Exh. 1). In each case, Cullins delineated a presumed trap with a surrounding transition area. The resulting picture is a small portion of the existing KGS area which Cullins concludes should properly be designated as within a KGS. Cullins characterizes the rest of the KGS area as "valuable prospectively." Beard Oil concludes that the Hemphill-Pineland Field KGS should be redefined as several discrete KGS's.

7/ In its answers in these cases, BLM argues that it is only required to establish that its KGS designation has a rational basis and should not be required to establish the validity of that designation by a preponderance of the evidence. As a statement of BLM's initial burden with respect to an appeal from a KGS designation, BLM is correct. BLM must establish the prima facie validity of its KGS designation. That can only be done by a record which, as transmitted to the Board or supplemented on appeal, provides a reasoned and factual explanation for the KGS designation. Only then will the burden of establishing error by a preponderance of the evidence devolve to the appellant.

In response to Beard Oil's arguments, BLM disputes the contention that the KGS area is characterized by small, localized areas of production. Rather, BLM argues that the KGS area is underlain by two "blanket-type limestone rock units [which] * * * are highly fractured, forming excellent reservoirs for accumulation and entrapment of oil and gas" (Memorandum, dated Mar. 13, 1986, from Tulsa District Manager to counsel for BLM (BLM March 1986 Memo) at 4). BLM notes that the Saratoga Chalk, in particular, extends northeast from the KGS area into Sabine Parish, Louisiana, where it has yielded considerable production. 8/ BLM discounts the significance of reported dry holes in the KGS area by arguing that dry holes generally have some production and that exploration within the area is in its "initial phase" following reversion of the mineral interests to the United States and additional time is needed "to determine the controlling factors in oil and gas entrapment" and to "fine-tune" exploration efforts (Memorandum, dated July 1, 1986, from Tulsa District Manager to counsel for BLM (BLM July 1986 Memo) at 2). BLM also notes that the Austin Chalk, which is considered by some authorities to have continuous hydrocarbon saturation, has not been extensively drilled in the KGS area. Id. at 3. The significance of limited production from producing wells, BLM argues, should be discounted because of poor completion practices. Id. at 7. BLM attributes the fact that some wells are no longer producing to the current low price for oil and gas. Id. Finally, BLM states that drilling has sufficiently defined the faulting in the area that it can be used to define the KGS boundaries. Id.

Beard Oil does not challenge BLM's conclusion that the KGS area is entirely underlain by both the Saratoga Chalk and the Austin Chalk and that oil and gas accumulation is associated with fracturing in these two sequences. In designating the KGS, it is clear that BLM did not actually determine the areal extent of fracturing within those two sequences, but relied primarily on the incidence of faulting, as determined by drilling. In addition, in its Geologic Report at page 3, BLM states that it was informed by the chief geologist with Coffman in a July 1985 personal communication that "[s]eismic data show a fracture system related to the faulting." BLM's structural contour map indicates that BLM postulates fracturing which extends from one-half of a mile to over 6 miles from a fault line, such that the entire KGS area is considered to be highly fractured. Thus, BLM's conclusion is based on its technical experts' opinions. Cullins, on the other hand, concludes that the areal extent of fracturing is considerably more limited than postulated by BLM. See Exh. A to Exh. 1. No other evidence has been submitted by Beard Oil to support Cullins' conclusion, which is based on his expert opinion. This divergence of expert opinion is not sufficient to establish error in BLM's KGS determination. At best, Beard Oil has established that experts may disagree over whether the entire KGS area is highly fractured. See B.K. Killion, supra at 386.

There is no question that the KGS area has a large number of dry holes. BLM suggests that these dry holes may have had some production. However,

8/ BLM reports production of over 37 million BO and over 247,000 MCF of gas through 1981 from 1,281 wells in the Pendleton-Many and Zwolle fields.

there is no evidence in the present record to support this suggestion. BLM also argues that exploration activity in the area has not progressed to a sufficiently informed point. BLM explains by citing the case of drilling in the Giddings Field in south-central Texas which had continuous shows of oil and gas but no substantial production until "fracture zones" were identified and drilled (BLM July 1986 Memo at 3). The presence of dry holes in this case does not establish that there is no reasonable probability that the KGS area is generally underlain by a productive reservoir. Such dry holes may simply establish the existence of small, localized areas lacking in production. Indeed, Beard Oil admits in its SOR, dated June 18, 1986, at page 5, that dry holes only establish that a "portion of the KGS is definitely not underlain by a reservoir of a producing oil or gas field." Beard Oil does not specify what it means by "portion." In any case, the 42 scattered dry holes within the KGS area are not sufficient to rebut BLM's KGS determination based on the general incidence of faulting and related production. BLM states: "Where the porosity and permeability of the Saratoga is enhanced by the faulting and fracture zones, the Saratoga becomes an excellent commercial producer" (BLM July 1986 Memo at 4).

We note that BLM refers to the reservoir underlying the KGS area in the Saratoga Chalk as "one continuous reservoir" (BLM July 1986 Memo at 7). The nature of the reservoir is apparently not that of a blanket-type reservoir but, rather, that of a reservoir which follows the fault lines and radiates off those lines along fractures. BLM continually refers to fractured reservoirs. This faulting and fracturing, according to BLM, increases the capacity for oil and gas production within the unit. Id.

Given this, it is clear that the KGS was drawn so as to include all areas where BLM postulates the existence of these fractured reservoirs. However, given the radiating nature of the reservoirs, there are inevitably interstices where no reservoir and, thus, no oil and gas production is found. This explains the presence of numerous scattered dry holes within the KGS. The reservoir simply radiates around these wells. Nevertheless, this does not mean that the overall area is not presumptively productive of oil and gas where there is a reasonable probability that a majority of the area is underlain by fractured reservoirs. See Angelina Holly Corp., supra; Robert L. Lyon, 66 IBLA 141 (1982).

Beard Oil bases its conclusion regarding localized reservoirs also on the limited production from 21 of the 32 producing wells. At the time of designation of the KGS, BLM was aware of the production history of wells within the KGS. See Geologic Report, Table 1. BLM states that it, nevertheless, considers the KGS area "very capable of production" (BLM July 1986 Memo at 6). For its part, Beard Oil has failed to establish that the limited production was attributable to a lack of productive capacity, rather than other factors. As noted supra, BLM has explained that where porosity and permeability are enhanced by fracture zones and faulting, the Saratoga is an excellent producer.

Beard Oil makes two other principal arguments. First, Beard Oil points out that, given the value of production through January 1, 1986, and the

estimated drilling, operating, and other costs for all of the wells drilled in the KGS area, there is over \$ 8.3 million in unrealized costs. BLM responds that it is not concerned with the profitability of drilling operations within a KGS (BLM July 1986 Memo at 4).

As defined in Departmental regulations, a KGS constitutes a trap which has been determined by drilling to be "productive" of oil or gas, and which includes lands considered to be "presumptively productive." 43 CFR 3100.0-5(1). The term "productive" is not defined in the regulation. However, at one time, the Department provided that land must be included in a KGS where it had been determined to be "capable of, or presumptively capable of, producing oil or gas in commercial quantities." Geological Survey Conservation Division Manual (Sept. 10, 1981) at 620.3.6 E. In accordance with this standard, the Board has regarded KGS designation as based on a determination that the land overlies a trap which "contains oil or gas in commercial quantities." Celeste C. Grynberg, 96 IBLA 87, 89 (1987). However, effective June 28, 1985, and subsequent to the KGS designation involved in Grynberg, BLM, which had assumed the function of Geological Survey in designating KGS's, essentially amended the applicable manual provisions to provide simply that land must be included in a KGS where it has been determined to be "within the area of a producing or presumptively productive oil or gas field." BLM Manual (June 28, 1985) at 3022.1.11 E. The "commercial quantities" requirement no longer obtains. Indeed, the manual further states that: "For KGS determinations, it is not necessary that a well be capable of producing in paying quantities, but it must be capable of production." BLM Manual at 3022.1.11 A.3. See also, Instruction Memorandum No. 87-122, dated Nov. 14, 1986, attachments 1-6 (definition of "productive"). BLM essentially now regards KGS designation as determinative solely on the basis of geologic evidence. This represents a shift in policy, but it is not contrary to either 43 CFR 3100.0-5(1) or section 17 of the Mineral Leasing Act. We find that Beard Oil's argument concerning the overall profitability of drilling operations within the Hemphill-Pineland Field KGS is not relevant to the issue of whether BLM properly included certain lands within the boundaries of a KGS. Profitability is a variable and dependent upon the vagaries of the market place. A KGS designation is based upon, as BLM states, geologic evidence.

Second, Beard Oil contends that BLM improperly included land within the KGS based solely on survey boundaries. In particular, Beard Oil points to the inclusion of about 6,000 acres in the northern portion of the KGS area, 9/ a portion of the Eli Lowe Survey (A-34), about 6,000 acres in the John Moore Survey (A-41), and about 6,000 acres in various other surveyed tracts. 10/ Beard Oil notes that this land had either dry holes, plugged

9/ This land encompasses the following surveyed tracts: John S. Lacy (A-28), Shadrick Morris (A-42), Alexander Fraser (A-103), and J. A. Hines (A-22).

10/ These surveyed tracts are as follows: John Quinalty (A-49), Wm. W. Davis (A-89), Rebecca J. Cloud (A-26), H&TC RR Co. (A-467), O. A. Ferguson (A-359), T. & M. O.R.R. (A-233), Wm. Cain (A-263), and Wm. M. Rice (A-435).

and abandoned wells, or wells which experienced little production such that, according to Beard Oil, there was no justification for inclusion of that land in the KGS. In response, BLM states that, while it used the survey boundaries to delineate the KGS, these boundaries were "always inside, never outside, the geologic limits of the KGS" and that "geologic interpretation of the reservoir must be our final determinant in setting up KGS areas" (BLM July 1986 Memo at 5-6). BLM described the basis for designating the KGS boundaries as follows:

Our east-west KGS boundaries are placed at the outer limit of this fractured limestone interval, as shown by the available electric logs. When the north-south boundaries were determined, the most conservative approach possible was used. Because the faulting and accompanying fracture system runs north to south, there is no known limit to their extent at this time. In other words, the north-south extent of this highly fractured area is much greater than our KGS boundary.

(BLM March 1986 Memo at 4).

To a certain extent, designation of land within a KGS always has an administrative component. That is, in order to make a KGS administratively manageable, KGS boundaries will be drawn along recognized survey boundaries thereby encompassing the land which has been determined by drilling and geologic evidence to be properly included in the KGS under 43 CFR 3100.0-5(1). However, we have held that only the smallest amount of administratively identifiable land should be included in a KGS because of administrative considerations, in the absence of any contrary justification. Thus, in areas surveyed under the rectangular survey system, we have held that it is improper to include all the land in a 640-acre state spacing unit in a KGS merely because any part of that unit is crossed by what is considered the outer limit of the stratigraphic or structural productive trap. Kathleen M. Blake, supra at 75-76; Pamela Crocker-Davis, 94 IBLA 328, 331-32 (1986). Rather, we concluded that BLM should limit inclusion to the smallest legal subdivision (quarter quarter section) traversed by the exterior boundary drawn along the zero new effective reservoir isopach. In the present case, the land has been surveyed by metes and bounds under the Texas survey system, rather than under the public land rectangular survey system, which is not applicable in Texas. Moreover, those tracts are not subdivided. Therefore, we find it permissible under the present circumstances to include an entire surveyed tract in a KGS where its inclusion is supported by geologic interpretation.

However, as BLM states on appeal, in designating the Hemphill-Pineland Field KGS, survey boundaries became subordinate to geologic considerations. To the extent that Beard Oil challenges such considerations, they have already been dealt with supra.

Finally, Beard Oil requests a hearing. However, our review of the record does not indicate that there are material issues of fact which must be resolved at a hearing. The record is adequate for a decision by the Board. Beard Oil's request for a hearing, which may be granted at the discretion of the Board, in accordance with 43 CFR 4.415, is denied. See Woods Petroleum Co., 86 IBLA 46 (1985).

Some of the arguments made by Beard Oil are echoed by the other appellants. However, we will address their arguments individually.

Grynberg challenges designation of 102 acres of land in the Cadwalder Davis Survey (A-13), encompassed by his lease offer, as being within the Hemphill-Pineland Field KGS. That tract of land is situated on the southern boundary of the KGS. Grynberg submits a February 27, 1986, affidavit of Gilbert Karpel, a geologist employed by the Grynberg Petroleum Company. Karpel states that there is no justification for designation of this land where it is located almost 2 miles southwest from the "nearest productive well" and producing wells within the KGS are "marginal" (Karpel Affidavit at 1). Karpel, thus, characterizes the land as a "wildcat" prospect. In an April 16, 1986, "Geological Discussion," Karpel does not dispute BLM's conclusion that the KGS area is crossed by a series of north-south faults, which create fractures. He does, however, argue that there are "several fracture-systems, limited in their areal extent, which form a number of small traps rather than one trap that covers the entire area." Id. at 1. Karpel states that these fracture-systems are "close to the fault zones," with traps "of no more than 800 acres" in size. Id. at 2. Karpel bases his conclusions on the fact that dry holes and producing wells are "scattered" throughout the KGS. Id. at 1, 2. This analysis, according to Karpel, places the subject tract beyond the presumptively productive area.

Grynberg has provided no evidence that the areal extent of fracturing is limited or that there are several fracture-systems other than pointing to the scattered nature of producing wells and dry holes. However, this evidence does not establish that the overall area is not, as BLM maintains, highly fractured due to the numerous faults. It is quite possible that the dry holes simply failed to intersect the fracture-system. As with Beard Oil, Grynberg has not actually determined the areal extent of fracturing, but merely offered a contrary geological opinion. That is not sufficient to rebut BLM's opinion.

Likewise, Grynberg has not demonstrated that the distance from the subject tract to the nearest producing well is indicative of the fact that the tract is not within a presumptively productive area. Grynberg has submitted no evidence that the particular productive reservoir does not extend as far southwest as the subject tract, other than the assertion that production is generally marginal in the KGS area. Grynberg has also not shown how marginal production is translated into the areal extent of the reservoir. At best, Grynberg offers a geological opinion, which is not sufficient to rebut BLM's opinion that the tract is presumptively productive because it is located "in an east-west productive trend" 11/ (Memorandum, dated Mar. 20, 1986, from Tulsa District Manager to counsel for BLM, at 5).

11/ In a second supplemental statement of reasons, Grynberg argues that the subject tract was not properly included in the KGS because it lies outside the 1,440-acre square block of land surrounding the nearest production as adjusted to the nearest survey boundaries. However, it is clear that the tract was included in the KGS for geological, rather than administrative, reasons. We have dealt with Grynberg's geological arguments supra.

Coffman challenges designation of 3,586.39 acres of land in various surveys, encompassed by its lease offer, as being within the Hemphill-Pineland Field KGS. This tract of land is situated in the southeastern portion of the KGS, on or near the KGS boundary. Coffman argues that this land was not properly designated within the KGS where it is situated over 1 mile southeast and down-dip from the nearest production, with three intervening dry holes, and below the oil/water contact in four other wells in that nearby producing area. Coffman also notes that structural evidence, which it depicts on a structural map of the top of the Saratoga Chalk, demonstrates that oil and gas accumulations occur in four separate structural closures in the producing area. Coffman concludes that any production from the land in question would have to be from a separate geological structure than found in the producing wells. However, Coffman states that there is no evidence that this structure is productive, i.e., that the land contains "analogous faulted closures" (Coffman SOR, dated Jan. 13, 1986, at 1).

In response, BLM contends that the land in question was properly placed within the KGS because there is evidence that the area has a "fractured limestone system running through it" (Memorandum, dated Feb. 13, 1986, from Tulsa District Manager to counsel for BLM (BLM Feb. 1986 Memo) at 5). BLM discounts the fact that the land in question is down-dip and over 1 mile from the nearest production on the basis that this alone does not prove that the land is not underlain by a producing structure. BLM also dismisses the fact that there are three intervening dry holes, stating that the area admittedly has sporadic production "because of the nature of the fractured reservoir systems." Id. at 4. With respect to evidence of the oil/water contact up-dip of the land in question, BLM states that "water is not a correlatable feature in this area" because of the fractured reservoir systems. Id. at 5. As evidence of this, BLM refers to the fact that water can occur above oil in fractured reservoirs in the Austin Chalk located in the Giddings area of south central Texas.

In essence, BLM's argument is that the land was included in the KGS on the basis that it contains the geologic structure conducive to oil and gas production from the Saratoga Chalk, i.e., fractured reservoirs. BLM makes no assertion that this structure is a continuation of the one found in the nearby producing area. Moreover, BLM notes that, while this structure has not been proven to be productive in the land in question, it has been shown to be productive in other areas. See Wally J. Picou, 95 IBLA 98 (1986).

Coffman basically asserts that oil and gas production occurs from four separate structural closures or traps that are not continuous with each other. BLM responds that, using the same well data, it has concluded that the Saratoga is "a more fractured area with enhanced reservoir capability" (BLM Feb. 1986 Memo at 5). Coffman has not demonstrated that there are no fractured reservoirs or that such reservoirs would not be productive of oil or gas from the land in question. There is merely a difference of opinion between Coffman and BLM, which is not sufficient to rebut BLM's conclusions. We conclude that BLM properly designated the area as within the KGS where there is a reasonable probability that the land in question would be productive of oil and gas.

McVay challenges designation of 237 acres of land in the Sion Smith Survey (A-55), encompassed by his lease offer, as being within the Hemphill-Pineland Field KGS. This tract of land is situated in the western portion of the KGS near the KGS boundary. McVay contends that this land was not properly designated because it is situated in an area of marginally productive wells, is over 1 mile from a producing well, and is surrounded by dry holes. McVay also asserts BLM's KGS designation is based on conjecture. Finally, McVay notes that oil and gas prices have declined since the time of the KGS designation.

In response, BLM disputes the implied assertion that the KGS is characterized by small, localized accumulations of oil and gas, stating that it is a continuation of an area in Sabine Parish, Louisiana, underlain by the Saratoga Chalk that has had "extensive production from fractured limestone reservoirs" (Memorandum, dated May 5, 1986, from Tulsa District Manager to counsel for BLM at 4). With respect to the land in question, BLM notes that facts cited by McVay are not determinative of a KGS designation. BLM asserts that the geologic information indicates that the lands sought by McVay are underlain by a producing structure.

McVay has not established that the land in question does not contain the fractured reservoirs which have been productive of oil and gas in other portions of the KGS and is the basis for BLM's designation of this land. The fact that the land is over 1 mile from a producing well and that there are nearby dry holes does not by itself establish the absence of such reservoirs in the land in question. While BLM's geologic conclusions are admittedly a matter of opinion, they are not simply conjecture but are based on extensive drilling in the area of the KGS. We conclude that BLM properly designated the area as within the KGS where there is a reasonable probability that the land in question would be productive of oil and gas. Finally, where designation of a KGS is based not on economic, but geologic considerations, it is immaterial that oil and gas prices have declined since the time of the KGS designation. Indeed, it is said that a KGS is subject to redesignation only where all formations "have been exhausted or proved barren." K. S. Albert, 60 I.D. 62, 63 (1947). McVay has not established that this is the case.

Accordingly, we conclude that appellants have failed to establish by a preponderance of the evidence that BLM improperly designated the land encompassed by their noncompetitive oil and gas lease offers as within the Hemphill-Pineland Field KGS and that, therefore, BLM properly rejected appellants' lease offers.

Pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decisions appealed from are affirmed.

Bruce R. Harris
Administrative Judge

We concur:

Gail M. Frazier
Administrative Judge

C. Randall Grant, Jr.
Administrative Judge

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APPENDIX A

<u>IBLA No.</u>	<u>Appellant</u>	<u>Lease Offer</u>	<u>Date Offer</u>	<u>Date of BLM</u>
	<u>Number</u>	<u>Filed</u>	<u>Decision</u>	
86-156	Beard Oil Co.	NM-A 62541 (TX)	4/10/85	10/11/85
86-157	Beard Oil Co.	NM-A 62542 (TX)	4/10/85	10/11/85
86-210	Thomas D. Coffman, Inc.	NM-A 60860 (TX)	12/27/84	11/14/85
86-229	Beard Oil Co.	NM-A 60919 (TX)	1/2/85	11/26/85
86-230	Beard Oil Co.	NM-A 60917 (TX)	1/2/85	11/26/85
86-269	Beard Oil Co.	NM-A 61082 (TX)	1/2/85	12/11/85
86-270	Beard Oil Co.	NM-A 61083 (TX)	1/2/85	12/11/85
86-271	Beard Oil Co.	NM-A 61086 (TX)	1/2/85	12/11/85
86-272	Beard Oil Co.	NM-A 61106 (TX)	1/2/85	12/11/85
86-273	Beard Oil Co.	NM-A 61107 (TX)	1/2/85	12/11/85
86-274	Beard Oil Co.	NM-A 61108 (TX)	1/2/85	12/11/85
86-275	Jack J. Grynberg	NM-A 63794 (TX)	10/29/85	12/5/85
86-276	Beard Oil Co.	NM-A 61085 (TX)	1/2/85	12/11/85
86-368	Beard Oil Co.	NM-A 60890 (TX)	1/2/85	1/13/86
86-1044	Harue O. McVay	NM-A 65002 (TX)	2/3/86	3/18/86